Nithin Kamal
ML ENGINEER, SOFTWARE ENGINEER

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Experience

Fraunhofer IKS, *Software Engineer – **Self Adaptive Systems*** | Munich, Germany   *July 2023 - Jan 2024*
- Devised efficient taxonomy in a critical autonomous system through collaborated research and system analysis.
- Enabled and shipped remote configuration of parameters within the system, contributing to a productivity increase of 20%.
- Revamped user experience and increased user engagement by 200% through designing and deploying 30+ features.

BMW Group, *Research & Development – **Robotic and ML Engineer*** | Munich, Germany   *Apr 2022 - July 2023*
- Achieved 30% increase in robustness for state-of-the-art computer vision based anomaly detection (AD) algorithms in industrial scenarios through the design and implementation a novel multi-view AD approach and its training and test pipelines.
- Conducted and reported a comprehensive study of the state-of-the-art AD algorithms and manifold latent representations with extensive research and experimentation.
- Spearheaded remote monitoring and configuration of the robot and its parameters, achieving a 25% boost in efficiency.
- Enhanced the accuracy by 15% and the safety of the robot by integrating additional sensors and enforcing safety limits.
- Boosted productivity with end-to-end scalable web app development based on distributed and containerized microservices.
- Developed graphical user interfaces and optimized finite state machines for the robotic system.

Indurad GmbH, *Software Developer – **Full Stack Developer*** | Aachen, Germany   *Apr 2021 - Apr 2022*
- Developed interactive and scalable web apps and data visualizations with 50+ new features and upgrades across 3 products.
- Optimised UI and APIs resulting in 40% reduction in loading time, enhancing user experience and reducing resource utilization.
- Researched and reported on technologies to be utilized/ adopted within the projects, reducing operational costs by 10%.

Kimball Electronics : *Software Engineer – **Full Stack Developer*** | Trivandrum, India   *Nov 2019 - May 2020*
- Planned, designed, developed and deployed 40+ features and upgrades achieving 100% customer satisfaction.
- Achieved 20% increase in productivity by designing and implementing containerized microservices for automated data flows.
- Spearheaded the development of standard practices within the team, resulting in a 20% reduction in development time and a 30% reduction in bugs during final testing.
- Researched and implemented automated monitoring and notification in a large-scale, time-series database.

Shunyeka Systems Pvt Ltd. : *Consultant – **Full Stack Developer*** | Bengaluru, India   *Aug 2019 - Nov 2019*
- Improved user engagement by 250% and user experience through UI migration and responsive web design.
- Optimized operational costs by 15% through the integration of AWS Cognito Auth, AWS Lambda and Stripe payments.

VectorFlow Labs Pvt Ltd. : *Software Engineer – **Full Stack Developer*** | Bengaluru, India   *Oct 2018 - Nov 2019*
- Designed and developed responsive and interactive data visualizations for comprehensive monitoring and inference.
- Core participation in the planning and design of the startup's key product and developed 50+ features for an enterprise web app, including chat assistant and real-time multi-platform notification, delivering an impactful customer experience.

Technical Skills

Python, TypeScript, C++, JavaScript, Bash, and SQL.

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Machine Learning: Pandas, Numpy, **PyTorch**, **TensorFlow**, Keras, SciKit-learn, **Generative AI**, **Large Language Models**, **Transformers**, **Deep Learning**, **Computer Vision**, **Natural Language Processing** (NLP).

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Frontend: React, **Next.js**, **Tailwind CSS**, HTML, WebSockets, Plotly, **Data Visualization**

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Backend: Git, **Docker**, **AWS**, CI/CD, Windows, **Linux**, MQTT, Jenkins, **REST API**, **Node.js**, Express.js, Server Side Rendering, **MySQL**, **MongoDB**, InfluxDB

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Agile, **Test Driven Development**, Scrum, Kanban, Code Review, **ROS**, **Data Structures and Algorithms**, **Design Patterns**, Shell Script, Object & Functional Programming

Education

- **Master of Science - *Robotic Systems* (AI & ML) :**
  RWTH Aachen University, Germany [Nov 2020 - Sep 2023]
  Main Courses - **Advanced ML**, **Computer Vision**, Robotic Systems, Strategic Technology Management, Artificial Intelligence.

- **Bachelor of Technology - *Electronics Engineering* :**
  University of Kerala, India [Aug 2013 - Nov 2017]

Certificates

- **TensorFlow Professional Developer** - DeepLearning.AI

- **Generative AI with LLMs** - DeepLearning.AI

- **Python Specialization** - University of Michigan